

What is claimed is:

1. A peptide which has the biological activity of an independent
 and which comprises or has one of the following:
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 2. A nucleic acid molecule, which encodes the polypeptide
 as claimed in claim 1.

3. A nucleic acid molecule, which is complementary to the nucleic acid molecule as claimed in claim 2.
4. A vector, which comprises the nucleic acid molecule as claimed in claim 2 or 3.
5. A nonhuman host, which comprises the polypeptide as claimed in claim 1 or the nucleic acid molecule as claimed in claim 2 or 3 or the vector as claimed in claim 4.
6. The host as claimed in claim 5, which is a cell.
7. The host as claimed in claim 5, which is a transgenic nonhuman animal.
8. The host as claimed in any of claims 5 to 7, which has a further dehydrogenase suitable for cofactor regeneration or a nucleic acid molecule encoding said dehydrogenase.
9. The host as claimed in claim 8, in which the dehydrogenase suitable for cofactor regeneration is a formate dehydrogenase or a glucose dehydrogenase.
10. A reaction system, comprising an organic compound which is a substrate of a dehydrogenase, the polypeptide as claimed in claim 1, the vector as claimed in claim 4 or the host as claimed in any of claims 5 to 9 and, where appropriate, a cofactor for the polypeptide as claimed in claim 1.
11. The reaction system as claimed in claim 10, in which the organic compound which is a substrate of a dehydrogenase is a carbonyl compound.
12. The reaction system as claimed in claim 11, in which the carbonyl compound is an aldehyde or a ketone.

13. The reaction system as claimed in claim 12, in which the ketone is an asymmetrically substituted ketone.
14. The reaction system as claimed in claim 10, in which the organic compound which is a substrate of a dehydrogenase is an alcohol.
15. The reaction system as claimed in claim 14, in which the alcohol is a primary alcohol or a chiral secondary alcohol.
16. The reaction system as claimed in any of claims 10 to 15, in which the cofactor is .
17. A process for preparing the polypeptide as claimed in claim 1 or of a polypeptide encoded by the nucleic acid molecule as claimed in claim 2, which process comprises growing the host as claimed in any of claims 5 to 9 and isolating said polypeptide.
18. A process for preparing the polypeptide as claimed in claim 1 or of a polypeptide encoded by the nucleic acid molecule as claimed in claim 2, which process comprises isolating said polypeptide from a body fluid or tissue sample of the host as claimed in any of claims 7 to 9.
19. A process for an organic compound which is a product of a dehydrogenase, which process comprises reacting an organic compound which is a substrate of a dehydrogenase with the polypeptide as claimed in claim 1, the host as claimed in any of claims 5 to 9 or by means of the reaction system as claimed in any of claims 10 to 16.

20. The process as claimed in claim 19, which further comprises the step of isolating the product of the reaction.
- 5 21. The process as claimed in claim 20, which further comprises processing the product to give a medicament.
22. The process as claimed in claim 20, further comprising the step of processing the product to give a secondary
10 product.
23. The process as claimed in claim 22, further comprising the step of formulating the secondary product in the preparation of a medicament.
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24. The process as claimed in any of claims 19 to 23, in which the product is an enantiomerically pure alcohol.
25. A ligand, which specifically binds the polypeptide as
20 claimed in claim 1, which ligand is neither a substrate or cofactor of said polypeptide nor a product generated therefrom.
26. The ligand as claimed in claim 25, which is an
25 antibody or a fragment or derivative thereof, an aptamer, or a low-molecular weight substance.
27. A primer, having a sequence depicted in Table 1.
- 30 28. A primer pair, having sequences depicted in Table 1, with the first primer of said primer pair serving as a forward primer and the second primer of said primer pair serving as a reverse primer to amplify a DNA sequence.
- 35 29. A kit, comprising
- (a) the polypeptide as claimed in claim 1;

- (b) the nucleic acid molecule as claimed in claim 2 or 3;
- (c) the vector as claimed in claim 4;
- 5 (d) the host as claimed in any of claims 6 to 9;
- (e) the reaction system as claimed in any of claims 10 to 16;
- 10 (f) the ligand as claimed in claim 25 or 26;
- (g) at least one primer as claimed in claim 27; and/or
- 15 (h) at least one primer pair as claimed in claim 28.